



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/799,000

03/11/2004

John J. Hefti

PBS-001 US

6852

30499

7590

06/22/2009

CLIFFORD B. PERRY

132 N. EL CAMINO REAL

No. 347

ENCINITAS, CA 92024-2801

EXAMINER

TURK, NEIL N

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

06/22/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/799,000	Applicant(s) HEFTI ET AL.	
	Examiner NEIL TURK	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) 1-36, 40-43 and 57-66 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-39, 44-49 and 52-56 is/are rejected.
- 7) ☒ Claim(s) 50 and 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/30/08, 4/27/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Group II, claims 37-56, in the reply filed on April 16th, 2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Additionally, Examiner notes that Applicant failed to elect a species from within Group II, as outlined in the restriction requirement mailed on February 17th, 2009. After a conversation with Applicant's representative, Clifford Perry, on April 29th, 2009, a species election of species f. claim 39 was made. As a result, Applicant's complete and proper election without traverse constitutes **Group II, claims 37-39 and 44-56**. Claims 1-36 and 57-66 are withdrawn from consideration as being drawn to non-elected inventions, and claims 40-43 have been withdrawn from consideration as being drawn to non-elected species.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the correlator of claim 46 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

Art Unit: 1797

replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 49 and 52-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The “locations” as recited in the claims are indefinitely and unclearly defined. Such locations, as associated with the samples as claimed, are indefinitely and unclearly defined because the samples (first and second sample) are not positive elements of the claimed device. As the samples have not been

Art Unit: 1797

established as positive elements of the device, the locations, whose basis lies relative to the sample, are thereby undefined. Claim 52, for example, recites a further element of a first signal ground *coupled* to the sample at a third location..., however such coupling and further, at a third location, is unclearly and indefinitely recited as the sample(s) is(are) not part of the device. This is likewise seen in claims 49 and 53-56. As a result, prior art which teaches the further, positively established elements of claims 49 and 52-56 will be said to meet the limitations of the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37-39, and 44-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Guruswamy et al. (5,004,583), hereafter Guruswamy.

Guruswamy discloses a universal sensor cartridge for use with a universal analyzer for sensing components in a multicomponent fluid (abstract). Guruswamy discloses electrode sensors 16, 18, 20, 22 (measuring ionic activity of respective species; i.e. measuring electrical properties thereof) with corresponding covering membranes 17, 19, 21, 23 impregnated with ion-selected materials where the electrodes are sensitive to species A, B, C, and combinations A&B and A&C. Guruswamy discloses that a reference electrode is eliminated by establishing cells

Art Unit: 1797

between sensors 16 and 20 (first measurement probe 16) and sensors 18 and 20 (second measurement probe 18), conveying the signals over wires 24 to multiplexer 26 which is commanded over wire 36 by microcomputer 32. Guruswamy further discloses that the signals are sent to op-amp 28, which is a differential amplifier (comparator), where signals from electrode sensor 16 and electrode sensor 18 are then passed to A/D converter 30 (DC converter) and, ultimately, to microcomputer 32 (values stored or inputted here for calculation by the equations; correlator as claimed in cl. 46).

Guruswamy discloses that, as a result, the differential potentials corresponding to E_{20-18} and E_{20-16} are obtained (col. 5&6, figs. 1-4). With regards to claims 37-39 and 44, Examiner notes that the limitations to the first and second sample (at respective first locations thereof) are not given patentable weight as first and second samples have not been claimed as positive elements of the claims. Applicant has positively claimed a first measurement probe with operable capability and a second measurement probe with operable capability to interrogate properties of a sample. As such, the prior art of Guruswamy discloses all of the positively claimed elements of the claims and is said to be operable to interrogate properties of first and second samples as claimed. With regard to claim 46, the recitation to the correlator which recites, "...wherein the correlator compares the difference signal against one or more...and identifies..." is drawn to process limitations not afforded patentable weight in a device claims. Such that the microcomputer of Guruswamy has an input for receiving the difference signal and a memory, the microcomputer of Guruswamy is said to be capable of such processes/functionalities.

Claims 37-39, 44, 45, 47, and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Arwin et al. (4,072,576), hereafter Arwin.

Arwin discloses a device for studying enzymatic and other biochemical reactions (abstract). Arwin discloses a measuring apparatus that has two platinum electrodes 2, 3 (first and second measurement probes) immersed in a solution 4. Arwin discloses that the measuring apparatus comprises an impedance bridge 1 (Wheatstone bridge circuit formation; includes first and second resistors as reference elements to electrodes 2, 3), a signal generator 5 (comparator as claimed), and an amplifier with a zero detector 6 (lines 1-10, 35-67, col. 2; figs. 1&2). With regards to claims 37-39 and 44, Examiner notes that the limitations to the first and second sample (at respective first locations thereof) are not given patentable weight as first and second samples have not been claimed as positive elements of the claims. Applicant has positively claimed a first measurement probe with operable capability and a second measurement probe with operable capability to interrogate properties of a sample. As such, the prior art of Arwin discloses all of the positively claimed elements of the claims and is said to be operable to interrogate properties of first and second samples as claimed.

Claims 37-39 and 44-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaiser (5,597,534).

Kaiser shows and discloses in figure 4 a measurement circuit for reading potential differences at chemical sensor 12 (comprises of first and second electrodes, i.e. first and second measurement probes). Kaiser discloses that a voltage follower 44

Art Unit: 1797

outputs a signal that is proportional to the potential difference detected at chemical sensor 12, and the output of the voltage follower is coupled to a comparator 58. Kaiser further discloses that a processor 48 reads the output of the comparator and then stores information based on that output in memory 50 (lines 1-50, col. 5; fig. 4 – fig. 3 utilizes a similar measuring circuit but employs an A/D converter instead of the comparator).

Kaiser discloses and shows in figure 5 an apparatus for wireless chemical sensing in which electrodes (first and second measurement probes) of conductivity sensor 212 are connected in a Wheatstone bridge circuit comprises of a number of resistors, including standard arm resistor 204 that permits changing the range of the measurement circuit and resistors 206 and 208 that define limits of the bridge calibration (line 52, col. 5 – line 32, col. 6; figs. 1-5). With regards to claims 37-39, and 44, Examiner notes that the limitations to the first and second sample (at respective first locations thereof) are not given patentable weight as first and second samples have not been claimed as positive elements of the claims. Applicant has positively claimed a first measurement probe with operable capability and a second measurement probe with operable capability to interrogate properties of a sample. As such, the prior art of Kaiser discloses all of the positively claimed elements of the claims and is said to be operable to interrogate properties of first and second samples as claimed.

Allowable Subject Matter

Claims 50 and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, namely Guruswamy, Kaiser, and Arwin do not teach or fairly suggest the limitations of claims 50 and 51 which are drawn to a first, second, and third differential amplified coupled as claimed, and wherein the comparator further includes a phase meter as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEIL TURK whose telephone number is (571)272-8914. The examiner can normally be reached on M-F, 9-630.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NT

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797